

CLAIMS

What is claimed is:

1 1. A method for translating objects between applications that use different formats, the
2 method comprising:
3 generating a source object in a source application;
4 translating the source object to a target object in a target application, wherein the
5 target application has a format that is not supported by the source application;
6 performing a first modification to the target object, wherein said first modification is
7 not supported by said source application;
8 performing a second modification to said source object in said source application; and
9 revising said target object in said target application to reflect said second modification
10 to said source object without removing said first modification to said target
11 object.

1 2. The method of Claim 1, wherein the step of performing the first modification to the
2 target object includes the step of performing a type of modification that cannot be
3 performed using said source application.

1 3. The method of Claim 1, wherein:
2 the source application is a Computer Aided Design (CAD) application;
3 the target application is a rendering application; and wherein
4 the step of generating the source object in the source application includes the step of
5 generating a CAD object in said CAD application;
6 the step of translating the source object to the target object includes the step of
7 translating the CAD object into a rendering object;

8 the step of performing the first modification to the target object includes the step of
9 performing a modification to the rendering object;
10 the step of performing a second modification to said source object includes the step of
11 performing a modification to the CAD object; and
12 the step of revising said target object includes the step of revising the rendering object
13 to reflect the second modification that was made to the CAD object without
14 undoing the first modification to the rendering object.

1 4. The method of Claim 1, wherein:
2 the source object is associated with a source geometry and one or more source
3 properties; and
4 the step of translating the source object to the target object includes the steps of
5 translating the source geometry to a target geometry; and
6 translating the one or more source properties to one or more target properties.

1 5. The method of Claim 1, wherein the step of translating the source object to the target
2 object includes the step of:
3 building a mapping based on a translation between the source object and the target
4 object.

1 6. The method of Claim 5, wherein the step of building the mapping includes the step
2 of:
3 constructing a hierarchical tree structure, wherein the hierarchical tree structure is
4 based on one or more properties associated with the source object.

1 7. The method of Claim 6, wherein

2 the source object is associated with a source geometry and one or more source
3 properties; and
4 the step of constructing the hierarchical tree structure includes the steps of:
5 generating a set of tree objects, wherein the set of tree objects include one or
6 more filter objects that are based on said source properties;
7 translating the source geometry to a target geometry; and
8 inserting said target geometry into said hierarchical tree structure based said
9 one or more filter objects.

1 8. The method of Claim 7, wherein the step of generating the set of tree objects includes
2 the steps of: _____
3 translating the one or more source properties to one or more target properties;
4 generating one or more modifier stacks, wherein the one or more modifier stacks are
5 based on the one or more target properties; and
6 inserting the one or more modifier stacks into the hierarchical tree structure.

1 9. A method for translating objects between applications that use different formats, the
2 method comprising:
3 _____
4 generating a first object in a first application;
5 translating the first object to a second object in a second application, wherein the
6 second object has a format that is not supported by the first application;
7 performing a first modification to the second object in the second application;
8 performing a second modification to said first object in said first application; and
9 performing a third modification to the second object based on data generated in
10 response to said second modification to said first object, wherein said third
modification causes said second object to reflect the second modification that

11 was made to the first object without undoing the first modification to the
12 second object.

1 10. The method of Claim 9, wherein the step of performing the first modification to the
2 second object includes the step of performing a type of modification that cannot be
3 performed using said first application.

1 11. The method of Claim 9, wherein:
2 the first application is a Computer Aided Design (CAD) application;
3 the second application is a rendering application; and wherein
4 the step of generating the first object in the first application includes the step of
5 generating a CAD object in said CAD application;
6 the step of translating the first object to the second object includes the step of
7 translating the CAD object into a rendering object;
8 the step of performing the first modification to the second object includes the step of
9 performing a modification to the rendering object;
10 the step of performing a second modification to said first object includes the step of
11 performing a modification to the CAD object; and
12 the step of performing the third modification to the second object includes the step of
13 performing a third modification to the rendering object to reflect the second
14 modification that was made to the CAD object without undoing the first
15 modification to the rendering object.

1 12. A computer-readable medium carrying one or more sequences of instructions for
2 translating objects between applications that use different formats, wherein execution
3 of the one or more sequences of instructions by one or more processors causes the one
4 or more processors to perform the steps of:

5 generating a source object in a source application;
6 translating the source object to a target object in a target application, wherein the
7 target application has a format that is not supported by the source application;
8 performing a first modification to the target object, wherein said first modification is
9 not supported by said source application;
10 performing a second modification to said source object in said source application; and
11 revising said target object in said target application to reflect said second modification
12 to said source object without removing said first modification to said target
13 object.

1 13. A system for translating objects between applications that use different formats, the
2 system comprising:
3 a memory;
4 one or more processors coupled to the memory; and
5 a set of computer instructions contained in the memory, the set of computer
6 instruction including computer instructions which when executed by the one
7 or more processors, cause the one or more processors to perform the steps of:
8 generating a source object in a source application;
9 translating the source object to a target object in a target application, wherein
10 the target application has a format that is not supported by the source
11 application;
12 performing a first modification to the target object, wherein said first
13 modification is not supported by said source application;
14 performing a second modification to said source object in said source
15 application; and

- 16 revising said target object in said target application to reflect said second
- 17 modification to said source object without removing said first
- 18 modification to said target object.

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